REMARKS

Claims 1-22 have been cancelled. Claims 23-105 have been added. Accordingly, claims 23-105 are pending in the application. Reconsideration is respectfully requested.

THE INVENTION

The invention is related to an improved method for labeling nucleotides. Applicants have discovered that nucleotides can be efficiently labeled with certain platinum compounds having, for example, formula I on page 3, formula IV on page 6, formula V on page 7, formula VI on page 8 and formula VII on page 8. A spacer having at least four atoms separates the platinum atom from the label. The method advantageously is capable of labeling all of the common naturally occurring nucleotides, e.g. adenine, thymidine, cytosine, guanine and uridine.

THE CLAIMS

Claims 1-22 have been replaced by new claims 23-105. The claims have been re-drafted in order to make them easier to understand and follow.

Claims 23-50 are directed to a method for labeling a nucleotide starting with starting materials having two reactive groups. The reactive groups are replaced by a label and by a nucleotide in any order. These claims are comparable to original claims 1-19.

It should be noted that independent claim 23 is somewhat narrower in scope than original independent claim 1. In accordance with the examiner's suggestion in the sentence bridging pages 3 and 4 in the office action, applicants have narrowed the scope of their claims. Although applicants believe original claim 1 was, in fact, adequately supported in the specification, the claims have been narrowed for the purposes for expediting prosecution.

In particular, applicants have defined the "stabilizing bridge" of claim 1 as an aliphatic diamine. As will be discussed in detail below, applicants believe claims having an aliphatic diamine as the stabilizing bridge are clearly supported in the specification.

Claims 51-54 are directed to the labeled nucleotides that can be obtained by the method of claim 23. These claims are comparable to original claims 20 and 21.

Claims 55-79 are directed to a method for labeling nucleotides starting with a linker having formula VII. The linker having formula VII differs from the linker having formula I in that the linker having formula VII already has the label coupled to the spacer attached to the linker.

Claims 80-105 recite the labeling substance having formula VII. These claims are comparable to original claim 22.

RESPONSE TO OBJECTIONS AND REJECTIONS

In paragraph 1 of his office action, the examiner objected to claims 4-21 as being improperly multiple dependent claims. For that reason, the examiner did not consider claims 4-21 on the merits.

Applicants' representative is unaware of any authority for the examiner to decline to treat improper multiple dependent claims on the merits. Nevertheless, claims 4-21 have been cancelled. There are no longer any multiple dependent claims.

In paragraph 2 of the office action, the examiner rejected claims 1-3 and 22 under 35 U.S.C. §112, first paragraph. The examiner concedes that claims 1-3 and 22 are enabling for a method of preparing platinum-N,N,N',N'-tetramethylethylenediamine$(NO_3)_2$ with either BioDadoo or DigDadoo. According to the examiner, however, the application is not enabled for any of the other methods and compounds. In support of his argument, the examiner states that the specification

does not set forth other starting materials or other reaction conditions such that one of skill in the art would be able to make and use the compounds without undo experimentation.

As mentioned above, applicants have narrowed the scope of claim 1 by limiting the stabilizing bridge (X in formula I) to an aliphatic diamine. Applicants have provided a detailed disclosure of the reaction conditions for making compounds of the invention wherein the stabilizing bridge is ethylenediamine. See example 1A starting on page 13. A person having ordinary skill in the art would know that the identical method, or a very similar method that required no undue experimentation, would lead to compounds having any aliphatic diamine bridges.

In fact, applicants state as much by disclosing in example 1B on page 14 at line 14 that the same method used to make a compound having ethylenediamine as the stabilizing bridge can be used to make a compound having tetramethylethylenediamine as the stabilizing bridge.

The definition of the spacer in new claim 23 is defined as having four atoms with a reactive moiety at one end and an electron donating moiety at the other end. The reactive moiety can be a second electron donating moiety, such as an amino group, as occurs in the case of BioDadoo and DigDadoo. See page 15, lines 1 and 10, respectively.

Specific examples of preparing compounds wherein the spacer is BioDadoo or DigDadoo provided in example 2A, 2B, 2C on pages 14 and 15. A person having ordinary skill would know to use any of the other spacers described in the specification using either identical conditions or conditions so similar that they would not require undue experimentation. Spacers are described in the specification, for example, starting at page 4, line 28.

In further support of his enablement rejection, the examiner cites the case of Genentech v. Novo Nordisk, 42 USPQ2d 1001. There is a significant difference between the facts in the Genentech case and those in the present case.

In the Genentech case, the alleged infringer argued that the technology in dispute, namely the cleavage of fusion proteins for the purpose of precisely cleaving and isolating a desired protein, had never been accomplished before. See the paragraph bridging pages 1004 and 1005. The court agreed. See page 1005.

The amount of enabling disclosure required in a patent application has always depended on how well known the claimed technology is. Applicants' representative believes the amount of enabling disclosure still depends on the state of the art.

In the Genentech case, the Federal Circuit found that the claimed method had never been carried out. See above. In such a case, more detail is required to enable members of the public to understand and carry out the invention.

Where, as here, however, the reactions are well known, (although not for the purpose of labeling nucleotides), less detail is required. Applicants have provided ample representative examples that would enable those having ordinary skill to make and use the full scope of the claims. Such representative examples were completely lacking in the Genentech case. See the paragraph bridging columns 1 and 2 on page 1004.

Limiting the scope of the claims to the subject matter specifically exemplified, as requested by the examiner, is unwarranted by the Genentech case. The examiner is respectfully requested to consider the Genentech decision as a whole, rather than reading one paragraph out of context. The result suggested by the examiner would be most unfair to the applicants.

In paragraph 3 of the office action, the examiner rejected claims 1-3 and 22 under 35 U.S.C. 112. According to the examiner, the specification sets forth a

method for the production of two intermediate starting materials, but does not provide an adequate written description of other such methods or of their resulting products, so as to reasonably convey that applicants possessed such methods and products at the time of filing. The two intermediate starting materials acknowledged by the examiner to have been adequately described are [Pt(en)(BioDadoo-$NH_2(NO_3)$](NO_3) and [Pt(en)DigDadoo-$NH_2(NO_3)$](NO_3).

Methods for preparing these two intermediate products are disclosed in example 2A on page 14 and example 2C on page 15. The examiner's attention is directed to example 2B on page 15. Applicants believe the examiner will agree that a method for preparing [Pt(tmen)(BioDadoo-$NH_2(NO_3)$](NO_3) is equally well described.

Applicants respectfully traverse this rejection. The specification provides ample evidence that the applicants possessed methods for preparing a large number of intermediate products other than those specifically exemplified.

The intermediate starting materials are shown in the specification as formula VII at page 8, line 17. Elements X and A in formula VII are broadly defined. In the paragraph bridging pages 7 and 8 of the specification, for example, applicants provide ample evidence that they conceived of a molecule having a broad scope for the stabilizing bridge X. At page 8, line 9 applicants identify several reactive moieties other than nitrate.

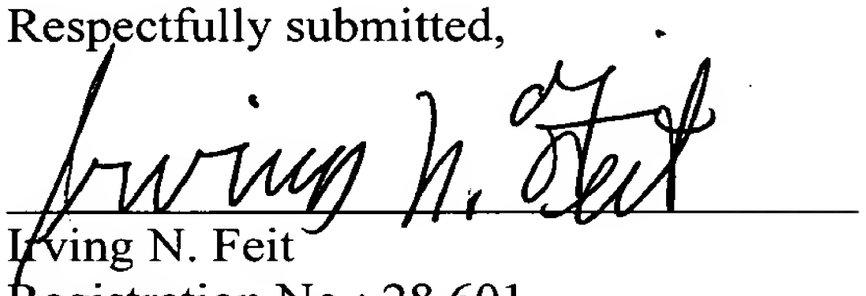
The labeling moiety of intermediate starting material VII is said to comprise a label and a spacer. A broad scope of intermediate starting materials having a spacer other than those specifically exemplified is described in the specification from page 4, line 28 to page 7, line 3. For example, the examiner's attention is directed to labeling moieties having the formula II and III leading to intermediate starting materials IIV and V, respectively.

It is clearly apparent that applicants intended a broad scope for their invention. Applicants do not believe it is necessary to set forth a method for each of the compounds they contemplated to be within the scope of their invention. As explained above in the section rebutting the examiner's enablement rejection, the specific methods described in example 2 are representative of those that could be used to prepare all of the compounds that are contemplated. No undue experimentation would be necessary.

This application is now believed to be in condition for allowance. Notice to that effect at the examiner's earliest convenience is respectfully requested.

The Commissioner is hereby authorized to charge any fees or additional fees associated with the communication or credit any over-payment to Deposit Account No. 08-2461. A duplicate copy of this sheet is attached.

Respectfully submitted,



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